

=> fil reg

FILE 'REGISTRY' ENTERED AT 10:28:10 ON 07 JUN 2007  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
 COPYRIGHT (C) 2007 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 6 JUN 2007 HIGHEST RN 936692-95-4  
 DICTIONARY FILE UPDATES: 6 JUN 2007 HIGHEST RN 936692-95-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

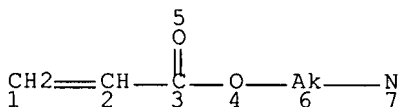
REGISTRY includes numerically searchable data and  
 predicted properties as well as tags and  
 experimental property data and  
 on property searching in REGISTRY and  
 information

<http://www.cas.org/support/stn>

=> d sta que 131

L5 3 SEA FILE=REGISTRY  
 0/BI OR 695168  
 L7 SCR 2043  
 L11 STR

R 695168-64-



*For Scanning  
into record*

NODE ATTRIBUTES:

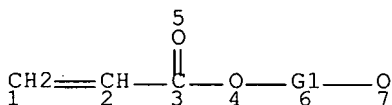
CONNECT IS M1 RC AT 7  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L13 5435 SEA FILE=REGISTRY CSS FUL L11 AND L7  
 L14 STR



VAR G1=AK/ID

## NODE ATTRIBUTES:

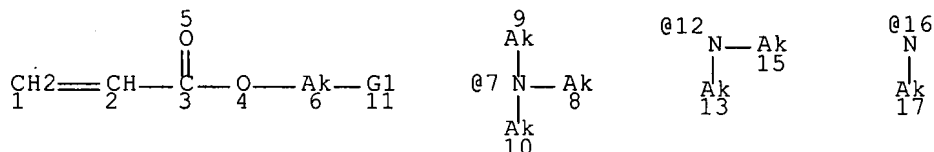
CONNECT IS M1 RC AT 7  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 7

## STEREO ATTRIBUTES: NONE

L16 732 SEA FILE=REGISTRY SUB=L13 CSS FUL L14  
 L17 STR



VAR G1=16/12/7

## NODE ATTRIBUTES:

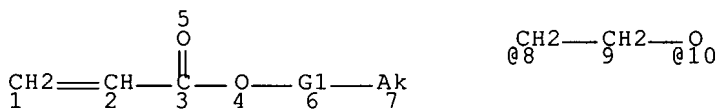
DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 16

## STEREO ATTRIBUTES: NONE

L19 345 SEA FILE=REGISTRY SUB=L16 CSS FUL L17  
 L20 88 SEA FILE=REGISTRY ABB=ON PLU=ON L19 AND (C2H4O OR C3H6O OR C4H8O OR C5H10O OR C6H12O)  
 L21 5 SEA FILE=REGISTRY ABB=ON PLU=ON L20 AND ("(C8H16NO2.(C2H4O)NC23H44O2.CL)X" OR "(C8H16NO2.(C2H4O)NC4H6O2.CH3O4S)X" OR "(C8H16NO2.(C2H4O)NC3H4O2.CL)X" OR "(C8H16NO2.(C2H4O)NC4H6O2.CL)X")/MF  
 L22 STR



REP G1=(1-3) 8-4 10-7

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 10

## STEREO ATTRIBUTES: NONE

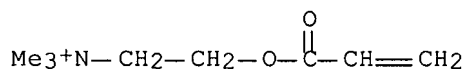
L24 60 SEA FILE=REGISTRY SUB=L19 CSS FUL L22  
 L25 37 SEA FILE=REGISTRY ABB=ON PLU=ON L24 NOT L20  
 L27 3 SEA FILE=REGISTRY ABB=ON PLU=ON L25 AND 3/NC  
 L31 8 SEA FILE=REGISTRY ABB=ON PLU=ON (L5 OR L21 OR L27)

=&gt; d ide can tot 131

L31 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN  
 RN 922153-15-9 REGISTRY  
 ED Entered STN: 20 Feb 2007  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propen-1-yl)oxy]-, chloride  
 (1:1), polymer with  $\alpha$ -(1-oxo-2-propen-1-yl)- $\omega$ -methoxypoly(oxy-  
 1,2-ethanediyl), diblock (CA INDEX NAME)  
 MF (C8 H16 N O2 . (C2 H4 O)<sub>n</sub> C4 H6 O2 . Cl)x  
 CI PMS  
 PCT Polyacrylic, Polyether  
 SR CA  
 LC STN Files: CA, CAPLUS, TOXCENTER

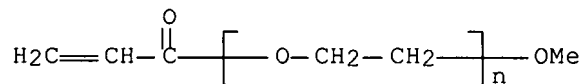
CM 1

CRN 44992-01-0 (20284-80-4)  
 CMF C8 H16 N O2 . Cl

● Cl<sup>-</sup>

CM 2

CRN 32171-39-4  
 CMF (C2 H4 O)<sub>n</sub> C4 H6 O2  
 CCI PMS



1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

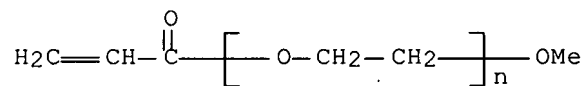
REFERENCE 1: 146:184819

L31 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN  
 RN 847278-40-4 REGISTRY  
 ED Entered STN: 25 Mar 2005  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, methyl sulfate,  
 polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-  
 ethanediyl), block (9CI) (CA INDEX NAME)  
 MF (C8 H16 N O2 . (C2 H4 O)<sub>n</sub> C4 H6 O2 . C H3 O4 S)x  
 CI PMS  
 PCT Polyacrylic, Polyether, Polyother

SR CA  
LC STN Files: CA, CAPLUS

CM 1

CRN 32171-39-4  
CMF (C2 H4 O)<sub>n</sub> C4 H6 O2  
CCI PMS



CM 2

CRN 13106-44-0  
CMF C8 H16 N O2 . C H3 O4 S

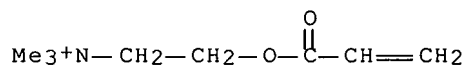
CM 3

CRN 21228-90-0  
CMF C H3 O4 S

Me-O-SO<sub>3</sub><sup>-</sup>

CM 4

CRN 20284-80-4  
CMF C8 H16 N O2



1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

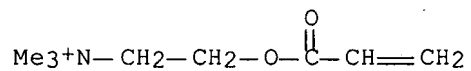
REFERENCE 1: 142:280856

L31 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN  
RN 695168-66-2 REGISTRY  
ED Entered STN: 18 Jun 2004  
CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
polymer with 2-(2-ethoxyethoxy)ethyl 2-propenoate (9CI) (CA INDEX NAME)  
MF (C9 H16 O4 . C8 H16 N O2 . Cl)<sub>x</sub>  
CI PMS  
PCT Polyacrylic  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 44992-01-0 (20284-80-4)

CMF C8 H16 N O2 . Cl

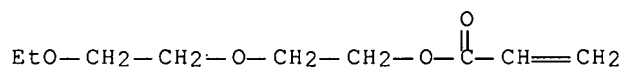


● Cl-

CM 2

CRN 7328-17-8

CMF C9 H16 O4



2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:25256

REFERENCE 2: 141:8765

L31 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN

RN 695168-64-0 REGISTRY

ED Entered STN: 18 Jun 2004

CN Ethanaminium, N,N,N-triethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-[2-(2-methoxyethoxy)ethoxy]ethyl 2-propenoate (9CI) (CA INDEX NAME)

MF (C11 H22 N O2 . C10 H18 O5 . Cl)x

CI PMS

PCT Polyacrylic

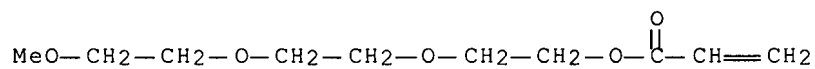
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

CM 1

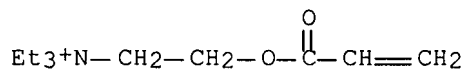
CRN 48067-72-7

CMF C10 H18 O5



CM 2

CRN 25407-23-2 (45116-16-3)  
 CMF C11 H22 N O2 . Cl



● Cl-

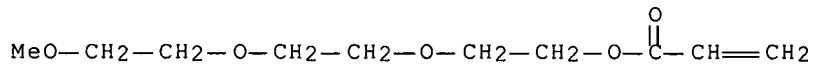
1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:8765

L31 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN  
 RN 695168-62-8 REGISTRY  
 ED Entered STN: 18 Jun 2004  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with 2-[2-(2-methoxyethoxy)ethoxy]ethyl 2-propenoate (9CI) (CA  
 INDEX NAME)  
 MF (C10 H18 O5 . C8 H16 N O2 . Cl)x  
 CI PMS  
 PCT Polyacrylic  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL

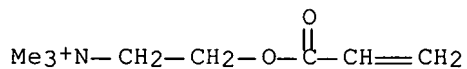
CM 1

CRN 48067-72-7  
 CMF C10 H18 O5



CM 2

CRN 44992-01-0 (20284-80-4)  
 CMF C8 H16 N O2 . Cl



● Cl-

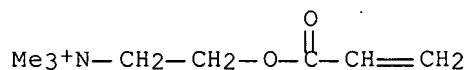
1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:8765

L31 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN  
 RN 624722-87-8 REGISTRY  
 ED Entered STN: 08 Dec 2003  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-  
 ethanediyl), graft (9CI) (CA INDEX NAME)  
 DR 620531-02-4  
 MF (C8 H16 N O2 . (C2 H4 O)<sub>n</sub> C4 H6 O2 . Cl)<sub>x</sub>  
 CI PMS  
 PCT Polyacrylic, Polyether  
 SR CA  
 LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

CM 1

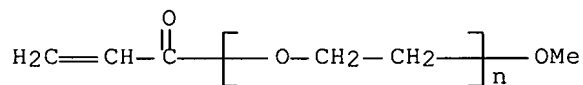
CRN 44992-01-0 (20284-80-4)  
 CMF C8 H16 N O2 . Cl



● Cl<sup>-</sup>

CM 2

CRN 32171-39-4  
 CMF (C2 H4 O)<sub>n</sub> C4 H6 O2  
 CCI PMS



3 REFERENCES IN FILE CA (1907 TO DATE)  
 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:25256

REFERENCE 2: 139:382952

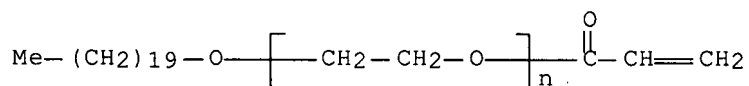
REFERENCE 3: 139:366507

L31 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN  
 RN 136614-96-5 REGISTRY  
 ED Entered STN: 11 Oct 1991  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(eicosyloxy)poly(oxy-1,2-  
 ethanediyl) (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(eicosyloxy)-  
 , polymer with N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]ethanaminium  
 chloride (9CI)  
 MF (C8 H16 N O2 . (C2 H4 O)<sub>n</sub> C23 H44 O2 . Cl)<sub>x</sub>  
 CI PMS  
 PCT Polyacrylic, Polyether  
 SR CA  
 LC STN Files: CA, CAPLUS

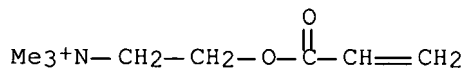
CM 1

CRN 136199-54-7  
 CMF (C2 H4 O)<sub>n</sub> C23 H44 O2  
 CCI PMS



CM 2

CRN 44992-01-0. (20284-80-4)  
 CMF C8 H16 N O2 . Cl



● Cl-

1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 115:184172

L31 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2007 ACS on STN  
 RN 112783-31-0 REGISTRY  
 ED Entered STN: 13 Feb 1988  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxypoly(oxy-1,2-  
 ethanediyl) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Poly(oxy-1,2-ethanediyl),  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -hydroxy-,  
 polymer with N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]ethanaminium  
 chloride (9CI)

MF (C8 H16 N O2 . (C2 H4 O)<sub>n</sub> C3 H4 O2 . Cl)<sub>x</sub>

CI PMS

PCT Polyacrylic, Polyether

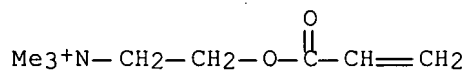
SR CA

LC STN Files: CA, CAPLUS

CM 1



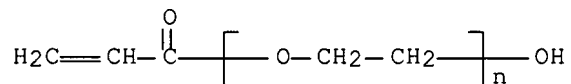
CRN 44992-01-0 (20284-80-4)  
 CMF C8 H16 N O2 . Cl



● Cl-

CM 2

CRN 26403-58-7  
 CMF (C2 H4 O)<sub>n</sub> C3 H4 O2  
 CCI PMS



1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 108:78172

=> d his

(FILE 'HOME' ENTERED AT 09:57:39 ON 07 JUN 2007)  
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 09:57:51 ON 07 JUN 2007

L1 1 S US20040105995/PN OR (US2003-720216# OR JP2002-345706 OR JP200  
 E YUASA/AU  
 E YUASA T/AU  
 L2 105 S E3  
 E YUASA TO/AU  
 L3 77 S E25  
 E YUASA NAME/AU  
 L4 10 S E4  
 E TOSHIYA/AU  
 SEL RN L1

FILE 'REGISTRY' ENTERED AT 09:59:24 ON 07 JUN 2007

L5 3 S E1-E3  
 L6 STR  
 L7 SCR 2043  
 L8 1 S L6 AND L7 SAM  
 L9 STR L6  
 L10 50 S L9 AND L7  
 L11 STR L9

L12 40 S L11 AND L7 CSS SAM  
 L13 5435 S L11 AND L7 CSS FUL  
 SAV TEMP L13 CORD720A/A  
 L14 STR L11  
 L15 40 S L14 CSS SAM SUB=L13  
 L16 732 S L14 CSS FUL SUB=L13  
 SAV TEMP L16 CORD720B/A  
 L17 STR L11  
 L18 20 S L17 CSS SAM SUB=L16  
 L19 345 S L17 CSS FUL SUB=L16  
 SAV TEMP L19 CORD720C/A  
 L20 88 S L19 AND (C2H4O OR C3H6O OR C4H8O OR C5H10O OR C6H12O)  
 L21 5 S L20 AND ("(C8H16NO2.(C2H4O)NC23H44O2.CL)X" OR "(C8H16NO2.(C2H  
 L22 STR L14  
 L23 4 S L22 CSS SAM SUB=L19  
 L24 60 S L22 CSS FUL SUB=L19  
 SAV L24 TEMP CORD720D/A  
 L25 37 S L24 NOT L20  
 L26 0 S L25 AND 2/NC  
 L27 3 S L25 AND 3/NC  
 L28 4 S L25 AND 4/NC  
 L29 33 S L25 NOT L28  
 L30 30 S L29 NOT L27  
 L31 8 S L5,L21,L27  
 L32 STR L22  
 L33 5 S L32 CSS SAM SUB=L19  
 L34 66 S L32 CSS FUL SUB=L19  
 L35 STR L32  
 L36 0 S L35 CSS FUL SUB=L19  
 L37 6 S L34 NOT L24  
 SAV L31 CORD720E/A TEMP

FILE 'HCAPLUS' ENTERED AT 10:26:13 ON 07 JUN 2007

L38 8 S L31  
 L39 2 S L38 AND L1-L4  
 L40 2 S L38 AND CANON?/PA,CS  
 L41 2 S L39,L40  
 L42 0 S L38 AND PY<=2002 NOT P/DT  
 L43 6 S L38 AND (PD<=20021128 OR PRD<=20021128 OR AD<=20021128) AND P  
 L44 6 S L41,L43

FILE 'USPATFULL' ENTERED AT 10:27:54 ON 07 JUN 2007

L45 3 S L31

FILE 'REGISTRY' ENTERED AT 10:28:10 ON 07 JUN 2007

=> fil uspatful

FILE 'USPATFULL' ENTERED AT 10:28:26 ON 07 JUN 2007

CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 5 Jun 2007 (20070605/PD)

FILE LAST UPDATED: 5 Jun 2007 (20070605/ED)

HIGHEST GRANTED PATENT NUMBER: US7228569

HIGHEST APPLICATION PUBLICATION NUMBER: US2007124841

CA INDEXING IS CURRENT THROUGH 5 Jun 2007 (20070605/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 5 Jun 2007 (20070605/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2006

=&gt; d 145 bib abs hitstr tot

L45 ANSWER 1 OF 3 USPATFULL on STN  
 AN 2006:268707 USPATFULL Full-text  
 TI Process for preparing a polymer dispersion  
 IN Struck, Oliver, Duren, GERMANY, FEDERAL REPUBLIC OF  
 Przybyla, Christian, Duisburg, GERMANY, FEDERAL REPUBLIC OF  
 Sieger, Achim, Duren, GERMANY, FEDERAL REPUBLIC OF  
 Hahn, Mathias, Wilhelmshorst, GERMANY, FEDERAL REPUBLIC OF  
 Ruppelt, Dirk, Potsdam, GERMANY, FEDERAL REPUBLIC OF  
 Jaeger, Werner, Kleinmachnow, GERMANY, FEDERAL REPUBLIC OF  
 PA Akzo Nobel N.V., Arnhem, NETHERLANDS (non-U.S. corporation)  
 PI US 2006229401 A1 20061012  
 US 7220339 B2 20070522  
 AI US 2006-450338 A1 20060612 (11)  
 RLI Division of Ser. No. US 2003-430422, filed on 7 May 2003, GRANTED, Pat.  
 No. US 7091273  
 PRAI US 2002-377989P 20020507 (60)  
 DT Utility  
 FS APPLICATION  
 LREP WHITE, REDWAY & BROWN LLP, 1217 KING STREET, ALEXANDRIA, VA, 22314, US  
 CLMN Number of Claims: 19  
 ECL Exemplary Claim: 1-31  
 DRWN No Drawings  
 LN.CNT 576

*reference made -  
add to file  
Suspension*

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for preparing an aqueous polymer dispersion comprising: preparing a dispersant co-polymer of a monomer mixture (M) by polymerising the monomer mixture (M) in a reaction medium which is substantially free from organic solvents and/or substantially free from monomers which are not soluble in water, the monomer mixture (M) comprises at least one cationic vinyl monomer (m.sub.3) and at least one monomer (m.sub.4) which is tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, or a monomer of the general formula (I): ##STR1## wherein R.sub.1 is hydrogen or methyl, R.sub.2 is hydrogen or C.sub.1-C.sub.2 alkyl, R.sub.3 is hydrogen, C.sub.1-C.sub.4 alkyl, phenyl, or benzyl, n=1 to 4, and x=1 to 50, and then, polymerising one or more water-soluble monomers (m) in an aqueous solution of a salt in the presence of the obtained dispersant polymer. The invention also relates to an aqueous polymer dispersion, use of the dispersion and a process for the production of paper.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **620531-02-4P**  
 (polymer dispersion used in papermaking)  
 RN 620531-02-4 USPATFULL

L45 ANSWER 2 OF 3 USPATFULL on STN  
 AN 2004:138823 USPATFULL Full-text  
 TI Sizing agent and recording sheet having the same  
 IN Yuasa, Toshiya, Kanagawa, JAPAN  
 PA Canon Kabushiki Kaisha, Tokyo, JAPAN (non-U.S. corporation)  
 PI US 2004105995 A1 20040603  
 AI US 2003-720216 A1 20031125 (10)  
 PRAI JP 2002-345706 20021128  
 JP 2003-198459 20030717  
 DT Utility  
 FS APPLICATION  
 LREP FITZPATRICK CELLA HARPER & SCINTO, 30 ROCKEFELLER PLAZA, NEW YORK, NY,  
 10112

*current  
App*

CLMN Number of Claims: 4  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 497

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A sizing agent includes a vinyl copolymer having a repeating unit (i) having a quaternary amino group and a repeating unit (ii) derived from acrylic monomers having a hydrophilic polyoxyethylene, the ratio by mass, (i):(ii), of the repeating unit (i) to the repeating unit (ii) being 60:40 to 90:10. A recording sheet having the sizing agent is also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 695168-62-8 695168-64-0 695168-66-2

(sizing agents containing vinyl copolymer for recording sheets with good printed images)

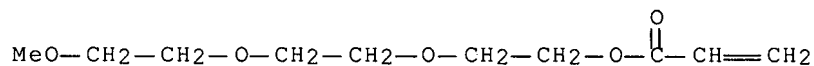
RN 695168-62-8 USPATFULL

CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-[2-(2-methoxyethoxy)ethoxy]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 48067-72-7

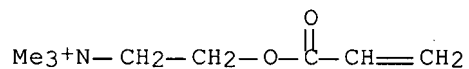
CMF C10 H18 O5



CM 2

CRN 44992-01-0

CMF C8 H16 N O2 . Cl



● Cl-

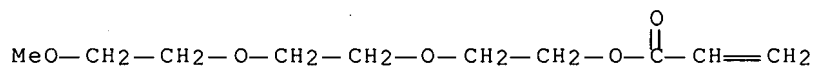
RN 695168-64-0 USPATFULL

CN Ethanaminium, N,N,N-triethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-[2-(2-methoxyethoxy)ethoxy]ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 48067-72-7

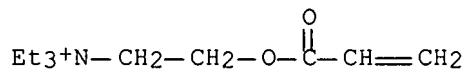
CMF C10 H18 O5



CM 2

CRN 25407-23-2

CMF C11 H22 N O2 . Cl



● Cl-

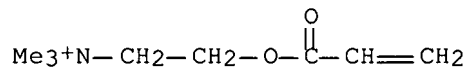
RN 695168-66-2 USPATFULL

CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
polymer with 2-(2-ethoxyethoxy)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 44992-01-0

CMF C8 H16 N O2 . Cl

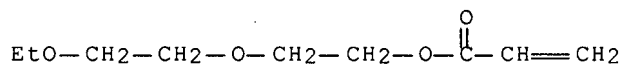


● Cl-

CM 2

CRN 7328-17-8

CMF C9 H16 O4



L45 ANSWER 3 OF 3 USPATFULL on STN

AN 2003:300957 USPATFULL Full-text

TI Process for preparing a polymer dispersion

IN Struck, Oliver, Duren, GERMANY, FEDERAL REPUBLIC OF  
Przybyla, Christian, Duisburg, GERMANY, FEDERAL REPUBLIC OF  
Sieger, Achim, Duren, GERMANY, FEDERAL REPUBLIC OF  
Hahn, Mathias, Wilhemshorst, GERMANY, FEDERAL REPUBLIC OF  
Ruppelt, Dirk, Potsdam, GERMANY, FEDERAL REPUBLIC OF

Jaeger, Werner, Kleinmachnow, GERMANY, FEDERAL REPUBLIC OF  
 PA AKZO NOBEL N.V. (non-U.S. corporation)  
 PI US 2003212183 A1 20031113  
 US 7091273 B2 20060815  
 AI US 2003-430422 A1 20030507 (10)  
 PRAI US 2002-377989P 20020507 (60)  
 DT Utility  
 FS APPLICATION  
 LREP Law Offices of David J. Serbin, 1423 Powhatan Street, ALEXANDRIA, VA,  
 22314  
 CLMN Number of Claims: 31  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 675

*Same as 1*

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for preparing an aqueous polymer dispersion comprising: preparing a dispersant co-polymer of a monomer mixture (M) by polymerising the monomer mixture (M) in a reaction medium which is substantially free from organic solvents and/or substantially free from monomers which are not soluble in water, the monomer mixture (M) comprises at least one cationic vinyl monomer (m.sub.3) and at least one monomer (m.sub.4) which is tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, or a monomer of the general formula (I): ##STR1##

wherein R.sub.1 is hydrogen or methyl, R.sub.2 is hydrogen or C.sub.1-C.sub.2 alkyl, R.sub.3 is hydrogen, C.sub.1-C.sub.4 alkyl, phenyl, or benzyl, n=1 to 4, and x=1 to 50, and then, polymerising one or more water-soluble monomers (m) in an aqueous solution of a salt in the presence of the obtained dispersant polymer. The invention also relates to an aqueous polymer dispersion, use of the dispersion and a process for the production of paper.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 620531-02-4P

(polymer dispersion used in papermaking)

RN 620531-02-4 USPATFULL

=> fil reg

FILE 'REGISTRY' ENTERED AT 10:29:54 ON 07 JUN 2007

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STRUCTURE FILE UPDATES: 6 JUN 2007 HIGHEST RN 936692-95-4

DICTIONARY FILE UPDATES: 6 JUN 2007 HIGHEST RN 936692-95-4

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predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> s 620531-02-4

L46 1 620531-02-4  
(620531-02-4/RN)

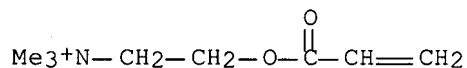
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L46 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2007 ACS on STN  
RN 624722-87-8 REGISTRY  
ED Entered STN: 08 Dec 2003  
CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)  
DR 620531-02-4  
MF (C8 H16 N O2 . (C2 H4 O)n C4 H6 O2 . Cl)x  
CI PMS  
PCT Polyacrylic, Polyether  
SR CA  
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL

CM 1

CRN 44992-01-0 (20284-80-4)

CMF C8 H16 N O2 . Cl



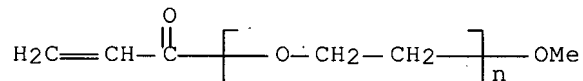
● Cl<sup>-</sup>

CM 2

CRN 32171-39-4

CMF (C2 H4 O)n C4 H6 O2

CCI PMS



3 REFERENCES IN FILE CA (1907 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 141:25256

REFERENCE 2: 139:382952

REFERENCE 3: 139:366507

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 10:30:13 ON 07 JUN 2007

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FILE COVERS 1907 - 7 Jun 2007 VOL 146 ISS 24

FILE LAST UPDATED: 6 Jun 2007 (20070606/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr retable tot 144

L44 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:472522 HCAPLUS Full-text

DN 141:25256

ED Entered STN: 11 Jun 2004

TI Sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality

IN Yuasa, Toshiya; Sakai, Kiyoshi; Nishida, Shunichiro

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM D21H0019-20

ICS B41M0005-00; C08F0220-28; C08F0220-34; C08F0220-56; C08F0226-04; C08F0290-06; D21H0021-16; D21H0027-00

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004162207	A	20040610	JP 2002-329552	20021113 <--
PRAI	JP 2002-329552		20021113	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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	ICS	B41M0005-00; C08F0220-28; C08F0220-34; C08F0220-56; C08F0226-04; C08F0290-06; D21H0021-16; D21H0027-00
	IPCI	D21H0019-20 [ICM,7]; D21H0019-00 [ICM,7,C*];

*pub date  
for late*

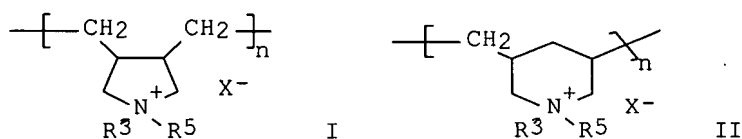


B41M0005-00 [ICS,7]; C08F0220-28 [ICS,7]; C08F0220-34 [ICS,7]; C08F0220-56 [ICS,7]; C08F0220-00 [ICS,7,C\*]; C08F0226-04 [ICS,7]; C08F0226-00 [ICS,7,C\*]; C08F0290-06 [ICS,7]; C08F0290-00 [ICS,7,C\*]; D21H0021-16 [ICS,7]; D21H0021-14 [ICS,7,C\*]; D21H0027-00 [ICS,7]

IPCR B41M0005-00 [I,A]; B41M0005-00 [I,C\*]; C08F0220-00 [I,C\*]; C08F0220-28 [I,A]; C08F0220-34 [I,A]; C08F0220-56 [I,A]; C08F0226-00 [I,C\*]; C08F0226-04 [I,A]; C08F0290-00 [I,C\*]; C08F0290-06 [I,A]; D21H0019-00 [I,C\*]; D21H0019-20 [I,A]; D21H0021-14 [I,C\*]; D21H0021-16 [I,A]; D21H0027-00 [N,A]; D21H0027-00 [N,C\*]

FTERM 2H086/BA21; 2H086/BA37; 4J027/AC02; 4J027/BA07; 4J027/BA08; 4J027/BA14; 4J027/BA17; 4J100/AL08P; 4J100/AL08Q; 4J100/AL09P; 4J100/AM21Q; 4J100/AN14Q; 4J100/BA08P; 4J100/BA33Q; 4L055/AG65; 4L055/AG71; 4L055/AG88; 4L055/AG89; 4L055/AH13; 4L055/AJ02; 4L055/BE08; 4L055/BE10; 4L055/EA30; 4L055/EA32; 4L055/FA11; 4L055/FA15; 4L055/FA17; 4L055/GA09

GI



- AB The sizing agents contain vinyl copolymers having (A) monomer units chosen from (CH<sub>2</sub>CR<sub>1</sub>CO<sub>2</sub>R<sub>2</sub>N<sup>+</sup>R<sub>3</sub>R<sub>4</sub>R<sub>5</sub>·X<sup>-</sup>) (R<sub>1</sub> = H, Me; R<sub>2</sub> = C<sub>1</sub>-10 alkylene; R<sub>3</sub>, R<sub>4</sub> = C<sub>1</sub>-4 alkyl; R<sub>5</sub> = C<sub>1</sub>-8 alkyl, arylalkyl, alicyclic alkyl; X<sup>-</sup> = counter ion), (CH<sub>2</sub>CR<sub>1</sub>CONHR<sub>2</sub>N<sup>+</sup>R<sub>3</sub>R<sub>4</sub>R<sub>5</sub>·X<sup>-</sup>) (R<sub>1</sub>-R<sub>5</sub>, X<sup>-</sup> = same as above), I (R<sub>3</sub>, R<sub>5</sub>, X<sup>-</sup> = same as above), and/or II (R<sub>3</sub>, R<sub>5</sub>, X<sup>-</sup> = same as above) and (B) monomer units [CH<sub>2</sub>CR<sub>6</sub>CO<sub>2</sub>(R<sub>7</sub>O)<sub>n</sub>R<sub>8</sub>] (R<sub>6</sub> = H, Me; R<sub>7</sub> = C<sub>≤4</sub> alkylene; R<sub>8</sub> = C<sub>1</sub>-8 alkyl; n = 1-30). Thus, N,N-dimethylaminoethyl methacrylate Me chloride quaternary salt was polymerized with polyethylene glycol Me ether methacrylate to give a graft copolymer, which was mixed with other additives to give a sizing agent. Paper was coated with the sizing agent, dried, and jet printed with color ink to give an image, showing optical d. 1.24, 1.13, 1.16, and 1.45, for magenta, yellow, cyan, and black, resp.
- ST quaternary ammonium salt polymer sizing agent; jet printing paper image quality sizing agent; graft acrylic polyoxyalkylene quaternary salt sizing agent; aminoethyl methacrylate quaternary salt graft copolymer
- IT Polyoxyalkylenes, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic, graft, quaternary ammonium salt-containing; sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)
- IT Ink-jet recording sheets  
 (paper; sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)
- IT Quaternary ammonium compounds, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)  
 (polymers; sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)

IT Paper

(printing, ink-jet; sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)

IT Sizes (agents)

(sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)

IT 321936-94-1P 321936-99-6P, Diallyldimethylammonium chloride-ethylene oxide graft copolymer methyl ether 501931-39-1P 616873-07-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(comprised of actual and assumed monomers; sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)

IT 321904-01-2P 501930-16-1P 624722-87-8P 695168-66-2P

698387-95-0P 698387-96-1P 698387-97-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)

IT 624722-87-8P 695168-66-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)

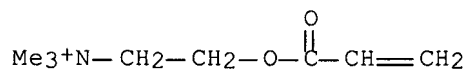
RN 624722-87-8 HCAPLUS

CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 44992-01-0

CMF C8 H16 N O2 . Cl



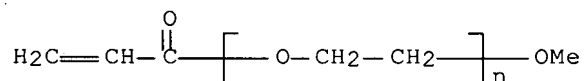
● Cl-

CM 2

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

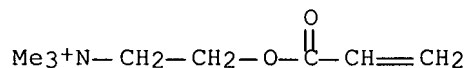
CCI PMS



RN 695168-66-2 HCAPLUS  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with 2-(2-ethoxyethoxy)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

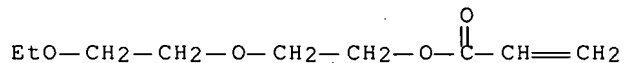
CRN 44992-01-0  
 CMF C8 H16 N O2 . Cl



● Cl-

CM 2

CRN 7328-17-8  
 CMF C9 H16 O4



L44 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2004:446959 HCAPLUS Full-text  
 DN 141:8765  
 ED Entered STN: 03 Jun 2004  
 TI Sizing agents containing vinyl copolymer and recording sheets having the  
 same  
 IN **Yuasa, Toshiya**  
 PA **Canon Kabushiki Kaisha, Japan**  
 SO Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW  
 DT **Patent**  
 LA English  
 IC ICM D21H0021-16  
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
 Section cross-reference(s): 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 1424442	A2	20040602	EP 2003-26380	20031118 <--
	EP 1424442	A3	20041110		
	EP 1424442	B1	20060607		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	AT 329085	T	20060615	AT 2003-26380	20031118 <--
	JP 2005048347	A	20050224	JP 2003-391730	20031121 <--
	US 2004105995	A1	20040603	US 2003-720216	20031125 <--

CN 1504611	A	20040616	CN 2003-10117015	20031127 <--
PRAI JP 2002-345706	A	20021128	<--	
JP 2003-198459	A	20030717	<--	

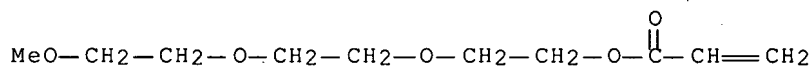
## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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	IPCI	D21H0021-14 [I,C]; D21H0017-00 [I,C]; D21H0021-16 [I,A]; D21H0017-36 [I,A]
	IPCR	B41M0005-00 [I,C*]; B41M0005-00 [I,A]; B41M0005-50 [I,C*]; B41M0005-52 [I,A]; D21H0017-00 [N,C*]; D21H0017-45 [N,A]; D21H0021-14 [I,C*]; D21H0021-16 [I,A]
AT 329085	ECLA	B41M005/00; B41M005/00J4; D21H021/16; B41M005/52K
	IPCI	D21H0021-16 [ICS,7]; D21H0021-14 [ICS,7,C*]; D21H0017-36 [ICS,7]; D21H0017-00 [ICS,7,C*]
	IPCR	B41M0005-00 [I,C*]; B41M0005-50 [I,C*]; D21H0017-00 [N,C*]; D21H0021-14 [I,C*]; B41M0005-00 [I,A]; B41M0005-52 [I,A]; D21H0017-45 [N,A]; D21H0021-16 [I,A]
JP 2005048347	ECLA	D21H021/16; B41M005/00; B41M005/52K
	IPCI	D21H0021-16 [ICM,7]; D21H0021-14 [ICM,7,C*]; B41J0002-01 [ICS,7]; B41M0005-00 [ICS,7]; C08F0220-34 [ICS,7]; C08F0220-00 [ICS,7,C*]; D21H0017-37 [ICS,7]; D21H0017-00 [ICS,7,C*]; D21H0027-00 [ICS,7]
	IPCR	B41J0002-01 [I,A]; B41J0002-01 [I,C*]; B41M0005-00 [I,A]; B41M0005-00 [I,C*]; C08F0220-00 [I,C*]; C08F0220-34 [I,A]; D21H0017-00 [I,C*]; D21H0017-37 [I,A]; D21H0021-14 [I,C*]; D21H0021-16 [I,A]; D21H0027-00 [I,A]; D21H0027-00 [I,C*]
	FTERM	2C056/EA04; 2C056/EA13; 2C056/FC06; 2H086/BA21; 2H086/BA37; 4J100/AL08P; 4J100/AL08Q; 4J100/BA05Q; 4J100/BA06Q; 4J100/BA08Q; 4J100/BA32P; 4J100/CA04; 4J100/JA13; 4L055/AG40; 4L055/AG48; 4L055/AG64; 4L055/AG71; 4L055/AG88; 4L055/AG89; 4L055/AH13; 4L055/AJ02; 4L055/BE08; 4L055/EA32; 4L055/FA11; 4L055/FA12; 4L055/FA19; 4L055/GA08; 4L055/GA09
US 2004105995	IPCI	B32B0027-08 [ICM,7]
	IPCR	B41M0005-00 [I,A]; B41M0005-00 [I,C*]; B41M0005-50 [I,C*]; B41M0005-52 [I,A]; D21H0017-00 [N,C*]; D21H0017-45 [N,A]; D21H0021-14 [I,C*]; D21H0021-16 [I,A]
	NCL	428/515.000; 428/474.400
CN 1504611	ECLA	D21H021/16; B41M005/00; B41M005/52K
	IPCI	D21H0021-16 [ICM,7]; D21H0021-14 [ICM,7,C*]
	IPCR	B41M0005-00 [I,C*]; B41M0005-00 [I,A]; B41M0005-50 [I,C*]; B41M0005-52 [I,A]; D21H0017-00 [N,C*]; D21H0017-45 [N,A]; D21H0021-14 [I,C*]; D21H0021-16 [I,A]
	ECLA	D21H021/16; B41M005/00; B41M005/52K

AB The sizing agent comprises a vinyl copolymer having a repeating unit (i) - [CH(COOCH<sub>2</sub>CH<sub>2</sub>NR<sub>3</sub>)CH<sub>2</sub>]- (R = C<sub>1</sub>-10 alkyl) and a repeating unit (ii) - [CH(COO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>k</sub>R')CH<sub>2</sub>]- (R' = C<sub>1</sub>-10 alkyl; k = 1-3), wherein a ratio of (i):(ii) is 60:40-90:10. The recording sheet comprising a fibrous pulp, a filler and the sizing agent provides printed images having good properties, such as good print d., color-forming properties, water resistance, light resistance and nonbleeding; and in particular, is useful for ink-jet recording of full-color images. Thus, a sizing agent comprising N,N'-Dimethylaminoethyl acrylate Me chloride-methoxytriethylene glycol acrylate copolymer-containing solution 40, PVA 217 (polyvinyl alc.) 10, SK 20 (oxidized starch) 45, SKS 257 (alkylketene dimer) 1, Pulset JK 173 (cationic polymer) 10 and water 1233.3

parts was applied onto a plain paper, dried at 100° for 5 min, and ink-jet printed to give full color image showing good print d., water resistance and light resistance.

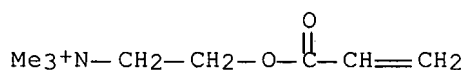
- ST vinyl copolymer sizing agent recording sheet; ink jet printing paper  
sizing agent
- IT Ink-jet recording sheets.  
(paper; sizing agents containing vinyl copolymer for recording sheets with good printed images)
- IT Paper  
(printing, ink-jet; sizing agents containing vinyl copolymer for recording sheets with good printed images)
- IT Paper  
(printing; sizing agents containing vinyl copolymer for recording sheets with good printed images)
- IT Cellulose pulp  
Fillers  
Sizes (agents)  
(sizing agents containing vinyl copolymer for recording sheets with good printed images)
- IT 695168-62-8 695168-64-0 695168-66-2  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(sizing agents containing vinyl copolymer for recording sheets with good printed images)
- IT 695168-62-8 695168-64-0 695168-66-2  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(sizing agents containing vinyl copolymer for recording sheets with good printed images)
- RN 695168-62-8 HCAPLUS
- CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with 2-[2-(2-methoxyethoxy)ethoxy]ethyl 2-propenoate (9CI) (CA INDEX NAME)
- CM 1
- CRN 48067-72-7
- CMF C10 H18 O5



CM 2

CRN 44992-01-0

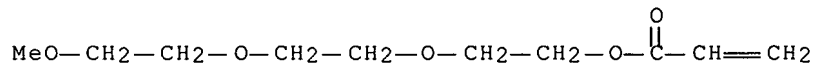
CMF C8 H16 N O2 . C1



RN 695168-64-0 HCAPLUS  
 CN Ethanaminium, N,N,N-triethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer  
 with 2-[2-(2-methoxyethoxy)ethoxy]ethyl 2-propenoate (9CI) (CA INDEX  
 NAME)

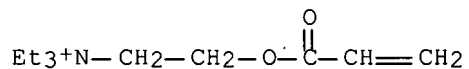
CM 1

CRN 48067-72-7  
 CMF C10 H18 O5



CM 2

CRN 25407-23-2  
 CMF C11 H22 N O2 . Cl

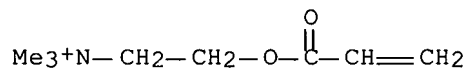


● Cl<sup>-</sup>

RN 695168-66-2 HCAPLUS  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with 2-(2-ethoxyethoxy)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

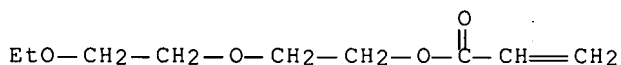
CRN 44992-01-0  
 CMF C8 H16 N O2 . Cl



● Cl<sup>-</sup>

CM 2

CRN 7328-17-8  
 CMF C9 H16 O4



L44 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:913200 HCAPLUS Full-text  
 DN 139:382952  
 ED Entered STN: 21 Nov 2003  
 TI Process for preparing polymer dispersion for papermaking  
 IN Struck, Oliver; Przybyla, Christian; Sieger, Achim; Hahn, Mathias;  
 Ruppelt, Dirk; Jaeger, Werner  
 PA Akzo Nobel N.V., Neth.; Eka Chemicals Ab  
 SO PCT Int. Appl., 20 pp.  
 CODEN: PIXXD2  
 DT **Patent**  
 LA English  
 IC ICM C08F0002-20  
 ICS D21H0021-10  
 CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)  
 Section cross-reference(s): 37

*alk-acid  
add to  
suspension*

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003095501	A1	20031120	WO 2003-SE726	20030506 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003230523	A1	20031111	AU 2003-230523	20030506 <--
CA 2485288	A1	20031120	CA 2003-2485288	20030506 <--
EP 1501876	A1	20050202	EP 2003-723594	20030506 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003011432	A	20050322	BR 2003-11432	20030506 <--
CN 1653091	A	20050810	CN 2003-810202	20030506 <--
JP 2005524741	T	20050818	JP 2004-503514	20030506 <--
RU 2281294	C2	20060810	RU 2004-135557	20030506 <--
ZA 2004008972	A	20051116	ZA 2004-8972	20041105 <--
NO 2004005346	A	20050207	NO 2004-5346	20041206 <--
PRAI EP 2002-445055	A	20020507	<--	
WO 2003-SE726	W	20030506		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003095501	ICM	C08F0002-20
	ICS	D21H0021-10
	IPCI	C08F0002-20 [ICM,7]; C08F0002-12 [ICM,7,C*]; D21H0021-10 [ICS,7]
	IPCR	C08F0002-04 [I,C*]; C08F0002-10 [I,A]; C08F0002-12 [I,C*]; C08F0002-20 [I,A]; D21H0017-00 [I,C*]; D21H0017-45 [I,A]; D21H0021-10 [I,C*]; D21H0021-10 [I,A]

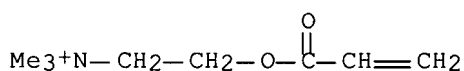
AU 2003230523 ECLA C08F002/10; D21H017/45  
 IPCI C08F0002-20 [ICM,7]; C08F0002-12 [ICM,7,C\*];  
 D21H0021-10 [ICS,7]  
 IPCR C08F0002-04 [I,C\*]; C08F0002-10 [I,A]; C08F0002-12  
 [I,C\*]; C08F0002-20 [I,A]; D21H0017-00 [I,C\*];  
 D21H0017-45 [I,A]; D21H0021-10 [I,C\*]; D21H0021-10  
 [I,A]  
 CA 2485288 IPCI C08F0002-20 [ICM,7]; C08F0002-12 [ICM,7,C\*];  
 D21H0021-10 [ICS,7]  
 IPCR C08F0002-04 [I,C\*]; C08F0002-10 [I,A]; C08F0002-12  
 [I,C\*]; C08F0002-20 [I,A]; D21H0017-00 [I,C\*];  
 D21H0017-45 [I,A]; D21H0021-10 [I,C\*]; D21H0021-10  
 [I,A]  
 EP 1501876 IPCI C08F0002-20 [ICM,7]; C08F0002-12 [ICM,7,C\*];  
 D21H0021-10 [ICS,7]  
 IPCR C08F0002-12 [I,C\*]; C08F0002-20 [I,A]; D21H0021-10  
 [I,C\*]; D21H0021-10 [I,A]  
 BR 2003011432 IPCI C08F0002-20 [ICM,7]; C08F0002-12 [ICM,7,C\*];  
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 IPCR C08F0002-04 [I,C\*]; C08F0002-10 [I,A]; C08F0002-12  
 [I,C\*]; C08F0002-20 [I,A]; D21H0017-00 [I,C\*];  
 D21H0017-45 [I,A]; D21H0021-10 [I,C\*]; D21H0021-10  
 [I,A]  
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 D21H0021-10 [ICS,7]  
 IPCR C08F0002-04 [I,C\*]; C08F0002-10 [I,A]; C08F0002-12  
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 D21H0017-45 [I,A]; D21H0021-10 [I,C\*]; D21H0021-10  
 [I,A]  
 JP 2005524741 IPCI C08F0002-20 [ICM,7]; C08F0002-12 [ICM,7,C\*];  
 D21H0017-45 [ICS,7]; D21H0017-00 [ICS,7,C\*];  
 D21H0021-10 [ICS,7]  
 IPCR C08F0002-04 [I,C\*]; C08F0002-10 [I,A]; D21H0017-00  
 [I,C\*]; D21H0017-45 [I,A]; D21H0021-10 [N,A];  
 D21H0021-10 [N,C\*]  
 FTERM 4J011/JA06; 4J011/JB26; 4L055/AG65; 4L055/AG71;  
 4L055/AG72; 4L055/AG89; 4L055/AH18; 4L055/EA30;  
 4L055/FA10  
 RU 2281294 IPCI C08F0002-20 [I,A]; C08F0002-12 [I,C\*]; D21H0021-10  
 [I,A]  
 ZA 2004008972 ECLA C08F002/10; D21H017/45  
 IPCI C08F [ICS,7]; D21H [ICS,7]  
 IPCR C08F0002-04 [I,C\*]; C08F0002-12 [I,C\*]; D21H0017-00  
 [I,C\*]; D21H0021-10 [N,C\*]; C08F0002-10 [I,A];  
 C08F0002-20 [I,A]; D21H0017-45 [I,A]; D21H0021-10 [N,A]  
 NO 2004005346 ECLA C08F002/10; D21H017/45  
 IPCI C08F0002-20 [ICM,7]; C08F0002-12 [ICM,7,C\*];  
 D21H0021-10 [ICS,7]  
 IPCR C08F0002-04 [I,C\*]; C08F0002-10 [I,A]; C08F0002-12  
 [I,C\*]; C08F0002-20 [I,A]; D21H0017-00 [I,C\*];  
 D21H0017-45 [I,A]; D21H0021-10 [I,C\*]; D21H0021-10  
 [I,A]  
 ECLA C08F002/10; D21H017/45

AB The process comprises polymerizing  $\geq 1$  water-soluble monomer (e.g., acrylamide and acryloxyethyl dimethylbenzylammonium chloride) in an aqueous solution of salt in the presence of a dispersant polymer (e.g., diallyl dimethylammonium chloride-acryloxyethyl trimethylammonium chloride-polyethylene glycol Me ether acrylate copolymer), wherein the dispersant polymer is a copolymer of a monomer mixture comprising  $\geq 1$  cationic monomer and  $\geq 1$  monomer containing tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, or a monomer



CH<sub>2</sub>:C(R<sub>1</sub>)COO[(CH<sub>2</sub>)<sub>n</sub>CH(R<sub>2</sub>)O]<sub>x</sub>R<sub>3</sub> (R<sub>1</sub> = H, Me; R<sub>2</sub> = H, C<sub>1</sub>-2 alkyl; R<sub>3</sub> = H, C<sub>1</sub>-4 alkyl, Ph, benzyl; n = 1-4; x = 1- 50), and the monomer mixture is free from monomers which are not soluble in water and/or the dispersant polymer is obtainable by polymerizing the monomer mixture in a reaction medium which is substantially free from organic solvents.

- ST acrylamide acryloyloxyethyltrimethylammonium chloride copolymer dispersion papermaking; polymer dispersant polyacrylic dispersion prepn
- IT Polyoxyalkylenes, uses  
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)  
 (acrylic, dispersants; process for preparing polymer dispersion for papermaking)
- IT Polyoxyalkylenes, uses  
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)  
 (acrylic, graft, dispersants; process for preparing polymer dispersion for papermaking)
- IT Dispersing agents  
 Paper  
 (process for preparing polymer dispersion for papermaking)
- IT 620531-01-3P, Acryloyloxyethyltrimethylammonium chloride-diallyldimethylammonium chloride-polyethylene glycol methyl ether acrylate copolymer 620531-03-5P 620531-05-7P 620531-06-8P  
**624722-87-8P**  
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)  
 (dispersant; process for preparing polymer dispersion for papermaking)
- IT 74153-51-8, Acrylamide-acryloyloxyethyltrimethylammonium chloride copolymer  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (process for preparing polymer dispersion for papermaking)
- RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
- (1) Sun-Yi, H; US 6262168 B1 2001 HCAPLUS
- (2) Takeda, H; US 4929655 A 1990 HCAPLUS
- IT **624722-87-8P**  
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)  
 (dispersant; process for preparing polymer dispersion for papermaking)
- RN 624722-87-8 HCAPLUS
- CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with α-(1-oxo-2-propenyl)-ω-methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)
- CM . 1
- CRN 44992-01-0
- CMF C8 H16 N O2 . Cl

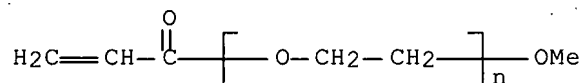


CM 2

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS



## RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Sun-Yi, H	2001			US 6262168 B1	HCAPLUS
Takeda, H	1990			US 4929655 A	HCAPLUS

L44 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:892458 HCAPLUS Full-text

DN 139:366507

ED Entered STN: 14 Nov 2003

TI Preparing a polymer dispersion, and use in papermaking

IN Struck, Oliver; Przybyla, Christian; Sieger, Achim; Hahn, Mathias;  
Ruppelt, Dirk; Jaeger, Werner

PA Akzo Nobel N.V., Neth.

SO U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DT **Patent**

LA English

IC ICM C08F0002-16

INCL 524460000

CC 43-7 (Cellulose, Lignin, Paper, and Other Wood Products)

Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003212183	A1	20031113	US 2003-430422	20030507 <--
	US 7091273	B2	20060815		
	US 2006229401	A1	20061012	US 2006-450338	20060612 <--
	US 7220339	B2	20070522		
PRAI	US 2002-377989P	P	20020507	<--	
	US 2003-430422	A3	20030507		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003212183	ICM	C08F0002-16
	INCL	524460000
	IPCI	C08F0002-16 [I,A]; C08F0002-20 [I,A]; C08F0002-24 [I,A]; C08F0002-12 [I,C*]; D21H0017-45 [I,A]; D21H0017-00 [I,C*]
	IPCR	C08F0002-04 [I,C*]; C08F0002-10 [I,A]; C08F0002-12 [I,C*]; C08F0002-16 [I,A]; C08F0002-24 [I,A]
	NCL	524/460.000
	ECLA	C08F002/10; C08F002/24
US 2006229401	IPCI	C08K0003-20 [I,A]; C08K0003-00 [I,C*]; D21D0005-02 [I,A]; D21D0005-00 [I,C*]; C08F0002-16 [I,A];

*ret a/d*

C08F0002-20 [I,A]; C08F0002-12 [I,C\*]; D21H0017-45 [I,A]; D21H0017-00 [I,C\*]

IPCR C08K0003-00 [I,C]; C08K0003-20 [I,A]; C08F0002-04 [I,C\*]; C08F0002-10 [I,A]; C08F0002-12 [I,C\*]; C08F0002-16 [I,A]; C08F0002-24 [I,A]

NCL 524/458.000; 524/289.000; 524/501.000; 524/517.000; 524/521.000; 524/523.000; 524/815.000; 524/827.000; 524/831.000; 162/168.100

ECLA C08F002/10; C08F002/24

AB A process for preparing an aqueous polymer dispersion comprises preparing a dispersant co-polymer of a monomer mixture (M) by polymerizing the monomer mixture (M) in a reaction medium which is substantially free from organic solvents and/or substantially free from monomers which are not soluble in H<sub>2</sub>O, the M comprises  $\geq 1$  cationic vinyl monomer (m<sub>3</sub>) and  $\geq 1$  monomer (m<sub>4</sub>) which is tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, or a monomer CH<sub>2</sub>:CR<sub>1</sub>CO<sub>2</sub>((CH<sub>2</sub>)<sub>n</sub>CHR<sub>2</sub>)<sub>x</sub>R<sub>3</sub>; where R<sub>1</sub> = H or Me; R<sub>2</sub> = H or Me or Et; R<sub>3</sub> = H, C<sub>1-4</sub> alkyl, Ph, or benzyl; n = 1-4, and x = 1-50, and polymerizing  $\geq 1$  water-soluble monomers (m) in an aqueous solution of a salt in the presence of the dispersant polymer.

ST cationic dispersant polymn acrylamide acryloxyethyltrimethylammonium chloride; paper retention aid acrylamide copolymer dispersion

IT Dispersing agents  
(cationic; polymer dispersion used in papermaking)

IT Polymerization  
(polymer dispersion used in papermaking)

IT Paper  
(retention aids; polymer dispersion used in papermaking)

IT 620531-01-3P, Diallyldimethylammonium chloride-acryloyloxyethyltrimethylammonium chloride-polyethylene glycol methyl ether acrylate copolymer 620531-03-5P 620531-04-6P 620531-05-7P 620531-06-8P **624722-87-8P**  
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)  
(polymer dispersion used in papermaking)

IT 7783-20-2, Ammonium sulfate, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(polymer dispersion used in papermaking)

IT 74153-51-8P, Acrylamide-acryloyloxyethyltrimethylbenzylammonium chloride copolymer  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(retention aid; polymer dispersion used in papermaking)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; EP 0169674 1986 HCAPLUS  
(2) Anon; EP 0170394 1986 HCAPLUS  
(3) Anon; EP 0183466 1986 HCAPLUS  
(4) Anon; EP 0364175 1990 HCAPLUS  
(5) Anon; EP 0525751 1993 HCAPLUS  
(6) Anon; EP 0630909 1994 HCAPLUS  
(7) Anon; EP 0637598 1995 HCAPLUS  
(8) Anon; EP 0657478 1995 HCAPLUS  
(9) Anon; EP 0717056 1996 HCAPLUS  
(10) Anon; EP 0831177 1998 HCAPLUS  
(11) Anon; WO 0011052 2000 HCAPLUS  
(12) Anon; WO 0011053 2000 HCAPLUS  
(13) Anon; WO 0020470 2000 HCAPLUS  
(14) Anon; EP 0877120 2000 HCAPLUS  
(15) Anon; WO 0118063 2001 HCAPLUS  
(16) Fock; US 5447981 A 1995 HCAPLUS

- (17) Huang; US 6262168 B1 2001 HCAPLUS  
 (18) Hurlock; US 5597859 A 1997 HCAPLUS  
 (19) Hurlock; US 6133368 A 2000 HCAPLUS  
 (20) Messner; US 5403883 A 1995 HCAPLUS  
 (21) Nzudie; US 6221957 B1 2001 HCAPLUS  
 (22) Takeda; US 4929655 A 1990 HCAPLUS  
 (23) Takeda; US 5587415 A 1996 HCAPLUS

IT 624722-87-8P

RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP  
 (Preparation); USES (Uses)  
 (polymer dispersion used in papermaking)

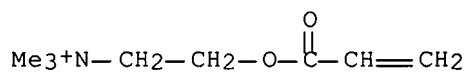
RN 624722-87-8 HCAPLUS

CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-  
 ethanediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 44992-01-0

CMF C8 H16 N O2 . C1



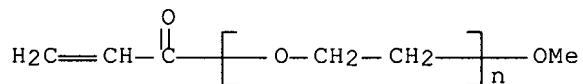
● Cl<sup>-</sup>

CM 2

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1986			EP 0169674	HCAPLUS
Anon	1986			EP 0170394	HCAPLUS
Anon	1986			EP 0183466	HCAPLUS
Anon	1990			EP 0364175	HCAPLUS
Anon	1993			EP 0525751	HCAPLUS
Anon	1994			EP 0630909	HCAPLUS
Anon	1995			EP 0637598	HCAPLUS
Anon	1995			EP 0657478	HCAPLUS
Anon	1996			EP 0717056	HCAPLUS
Anon	1998			EP 0831177	HCAPLUS
Anon	2000			WO 0011052	HCAPLUS

Anon	2000			WO 0011053	HCAPLUS
Anon	2000			WO 0020470	HCAPLUS
Anon	2000			EP 0877120	HCAPLUS
Anon	2001			WO 0118063	HCAPLUS
Fock	1995			US 5447981 A	HCAPLUS
Huang	2001			US 6262168 B1	HCAPLUS
Hurlock	1997			US 5597859 A	HCAPLUS
Hurlock	2000			US 6133368 A	HCAPLUS
Messner	1995			US 5403883 A	HCAPLUS
Nzudie	2001			US 6221957 B1	HCAPLUS
Takeda	1990			US 4929655 A	HCAPLUS
Takeda	1996			US 5587415 A	HCAPLUS

L44 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 1991:584172 HCAPLUS Full-text

DN 115:184172

ED Entered STN: 01 Nov 1991

TI Water-absorbing resin compositions

IN Tanaka, Keiji

PA Sanyo Chemical Industries Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

IC ICM C08F0220-28

ICS C08F0299-02; C08L0033-14

CC 35-4 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03093815	A	19910418	JP 1989-232466	19890906 <--
PRAI	JP 1989-232466		19890906	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 03093815	ICM	C08F0220-28
	ICS	C08F0299-02; C08L0033-14
	IPCI	C08F0220-28 [ICM,5]; C08F0220-00 [ICM,5,C*]; C08F0299-02 [ICS,5]; C08F0299-00 [ICS,5,C*]; C08L0033-14 [ICS,5]; C08L0033-00 [ICS,5,C*]
	IPCR	C08L0033-14 [I,A]; C08F0020-00 [I,C*]; C08F0020-26 [I,A]; C08F0220-00 [I,C*]; C08F0220-28 [I,A]; C08F0290-00 [I,C*]; C08F0290-00 [I,A]; C08F0299-00 [I,C*]; C08F0299-02 [I,A]; C08L0033-00 [I,C*]; C08L0033-04 [I,A]

AB Title resins which can absorb  $\geq 10$  g H<sub>2</sub>O/g are prepared by solubilizing H<sub>2</sub>C:CR<sub>1</sub>CO(OC<sub>2</sub>H<sub>4</sub>)<sub>m</sub>(OC<sub>3</sub>H<sub>6</sub>)<sub>n</sub>OR<sub>2</sub> (I, R<sub>1</sub> = H, Me; R<sub>2</sub> = C<sub>≥5</sub> alkyl; m<sub>≥</sub>2; n  $\geq$ 0) in an aqueous solution of hydrophilic monomers and polymerizing in H<sub>2</sub>O in the absence of crosslinkers. Thus, copolymers of I (R<sub>1</sub> = H, R<sub>2</sub> = eicosyl, m = 20, n = 0) and Na acrylate absorbed 310 g H<sub>2</sub>O/g while copolymers of I (R<sub>1</sub> = H, R<sub>2</sub> = Et, m = 20, n = 0) and Na acrylate were water-soluble

ST water absorbing resin; polyoxyalkylene ether acrylate copolymer hydrophilic

IT Absorbents

(for water, polyoxyalkylene (meth)acrylate C<sub>≥5</sub> alkyl ether-based, preparation of)

IT 136614-95-4P 136614-96-5P 136614-97-6P

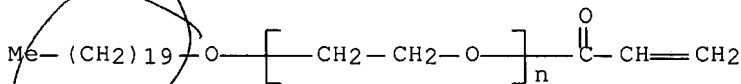
RL: PREP (Preparation)

(preparation of, water-absorbing)

IT 136614-96-5P  
 RL: PREP (Preparation)  
 (preparation of, water-absorbing)  
 RN 136614-96-5 HCAPLUS  
 CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
 polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(eicosyloxy)poly(oxy-1,2-  
 ethanediyl) (9CI) (CA INDEX NAME)

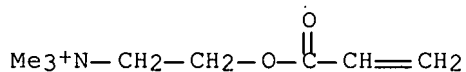
CM 1

CRN 136199-54-7  
 CMF (C2 H4 O)<sub>n</sub> C23 H44 O2  
 CCI PMS



CM 2

CRN 44992-01-0  
 CMF C8 H16 N O2 . Cl



● Cl-

L44 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1988:78172 HCAPLUS Full-text  
 DN 108:78172  
 ED Entered STN: 05 Mar 1988  
 TI Manufacture of microporous separation material  
 IN Kawase, Kaoru; Sakami, Hiroshi; Suzuki, Kenji; Iida, Shozo  
 PA Agency of Industrial Sciences and Technology, Japan  
 SO Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DT **Patent**  
 LA Japanese  
 IC ICM C01B0033-26  
 ICS B01J0020-10; B01J0029-02  
 ICA B01D0015-00; B01D0053-02; C02F0001-28; C09K0003-00  
 CC 49-4 (Industrial Inorganic Chemicals)  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62138317	A	19870622	JP 1985-278593	19851210 <--
	US 4753908	A	19880628	US 1986-940087	19861210 <--
PRAI	JP 1985-278592	A	19851210	<--	
	JP 1985-278593	A	19851210	<--	

*Separate  
 polymers -  
 not all monomers  
 in one*

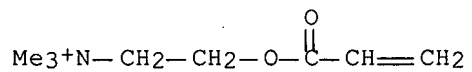
JP 1985-278594

A

19851210 &lt;--

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 62138317	ICM	C01B0033-26
	ICS	B01J0020-10; B01J0029-02
	ICA	B01D0015-00; B01D0053-02; C02F0001-28; C09K0003-00
	IPCI	C01B0033-26 [ICM,4]; C01B0033-00 [ICM,4,C*]; B01J0020-10 [ICS,4]; B01J0029-02 [ICS,4]; B01D0015-00 [ICA,4]; B01D0053-02 [ICA,4]; C02F0001-28 [ICA,4]; C09K0003-00 [ICA,4]
	IPCR	B01D0015-00 [I,A]; B01D0015-00 [I,C*]; B01D0053-02 [I,A]; B01D0053-02 [I,C*]; B01J0020-10 [I,A]; B01J0020-10 [I,C*]; C01B0033-00 [I,C*]; C01B0033-26 [I,A]; C02F0001-28 [I,A]; C02F0001-28 [I,C*]; C09K0003-00 [I,A]; C09K0003-00 [I,C*]
US 4753908	IPCI	B01J0021-16 [ICM,4]; B01J0021-00 [ICM,4,C*]; B01J0020-12 [ICS,4]; B01J0020-10 [ICS,4,C*]
	IPCR	B01J0020-10 [I,C*]; B01J0020-16 [I,A]; B01J0020-28 [I,A]; B01J0020-28 [I,C*]; B01J0031-06 [I,A]; B01J0031-06 [I,C*]
	NCL	502/063.000; 264/044.000; 501/082.000; 502/062.000; 502/082.000
AB		A smectite mineral, e.g., montmorillonite, water-soluble polymer having basic dissociating group, colloidal SiO <sub>2</sub> , and H <sub>2</sub> O are mixed to form an inclusion compound, then dried, and sintered to give a microporous body for filtering material. Thus, 5 mL aqueous polyoxyethylene acrylate-trimethyl-aminoethyl acrylate quaternary ammonium chloride copolymer was mixed with 5 mL colloidal SiO <sub>2</sub> , 4 mL H <sub>2</sub> O, and 1 g Na montmorillonite, dried at 110° for 1 day, and sintered at 500° for 3 h to give a porous body having total surface area 443 m <sup>2</sup> /g, sp. volume 0.24 cm <sup>3</sup> /g, porosity 0.48, and N adsorptivity 0.24 cm <sup>3</sup> /g.
ST		smectite mineral inclusion compd adsorbent; montmorillonite inclusion compd adsorbent
IT		Adsorbents (smectite-group mineral inclusion compound for, intercalated with water-soluble polymer and colloidal silica)
IT		Smectite-group minerals RL: USES (Uses) (inclusion compds., with water-soluble polymer and colloidal silica, for adsorbent)
IT		1318-93-ODP, Montmorillonite, inclusion compds. with water-soluble polymer and colloidal silica 7631-86-9DP, inclusion compds. with montmorillonite and water-soluble polymers 112783-31-ODP, inclusion compds. with montmorillonite and colloidal silica RL: PREP (Preparation) (preparation of, for adsorbents)
IT		112783-31-ODP, inclusion compds. with montmorillonite and colloidal silica RL: PREP (Preparation) (preparation of, for adsorbents)
RN		112783-31-0 HCAPLUS
CN		Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with α-(1-oxo-2-propenyl)-ω-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)
CM		1
CRN		44992-01-0
CMF		C8 H16 N O2 . C1



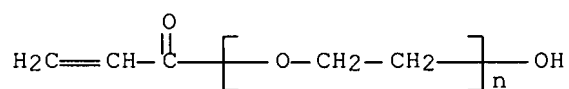
● Cl<sup>-</sup>

CM 2

CRN 26403-58-7

CMF (C2 H4 O)<sub>n</sub> C3 H4 O2

CCI PMS.



=> s 146

L47 3 L46

=> d bib abs hitstr retable tot

L47 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2004:472522 HCAPLUS Full-text

DN 141:25256

TI Sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality

IN Yuasa, Toshiya; Sakai, Kiyoshi; Nishida, Shunichiro

PA Canon Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 21 pp.

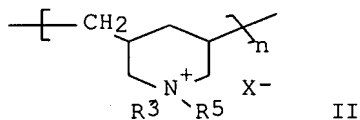
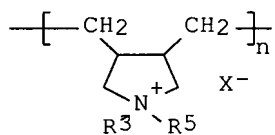
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004162207	A	20040610	JP 2002-329552	20021113
PRAI	JP 2002-329552		<del>20021113</del>		
GI					





AB The sizing agents contain vinyl copolymers having (A) monomer units chosen from (CH<sub>2</sub>CR<sub>1</sub>CO<sub>2</sub>R<sub>2</sub>N+R<sub>3</sub>R<sub>4</sub>R<sub>5</sub>·X<sup>-</sup>) (R<sub>1</sub> = H, Me; R<sub>2</sub> = C<sub>1</sub>-10 alkylene; R<sub>3</sub>, R<sub>4</sub> = C<sub>1</sub>-4 alkyl; R<sub>5</sub> = C<sub>1</sub>-8 alkyl, arylalkyl, alicyclic alkyl; X<sup>-</sup> = counter ion), (CH<sub>2</sub>CR<sub>1</sub>CONHR<sub>2</sub>N+R<sub>3</sub>R<sub>4</sub>R<sub>5</sub>·X<sup>-</sup>) (R<sub>1</sub>-R<sub>5</sub>, X<sup>-</sup> = same as above), I (R<sub>3</sub>, R<sub>5</sub>, X<sup>-</sup> = same as above), and/or II (R<sub>3</sub>, R<sub>5</sub>, X<sup>-</sup> = same as above) and (B) monomer units [CH<sub>2</sub>CR<sub>6</sub>CO<sub>2</sub>(R<sub>7</sub>)<sub>n</sub>R<sub>8</sub>] (R<sub>6</sub> = H, Me; R<sub>7</sub> = C<sub>≤4</sub> alkylene; R<sub>8</sub> = C<sub>1</sub>-8 alkyl; n = 1-30). Thus, N,N-dimethylaminoethyl methacrylate Me chloride quaternary salt was polymerized with polyethylene glycol Me ether methacrylate to give a graft copolymer, which was mixed with other additives to give a sizing agent. Paper was coated with the sizing agent, dried, and jet printed with color ink to give an image, showing optical d. 1.24, 1.13, 1.16, and 1.45, for magenta, yellow, cyan, and black, resp.

IT **624722-87-8P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(sizing agents containing quaternary ammonium salt polymers useful for full-color jet-printing paper with high image quality)

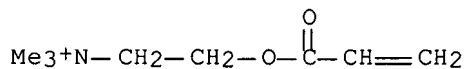
RN 624722-87-8 HCAPLUS

CN. Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with α-(1-oxo-2-propenyl)-ω-methoxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 44992-01-0

CMF C8 H16 N O2 . Cl



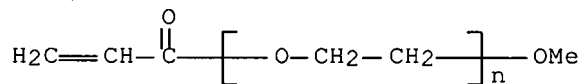
● Cl<sup>-</sup>

CM 2

CRN 32171-39-4

CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> C<sub>4</sub> H<sub>6</sub> O<sub>2</sub>

CCI PMS



L47 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:913200 HCAPLUS [Full-text](#)

DN 139:382952

TI Process for preparing polymer dispersion for papermaking

IN Struck, Oliver; Przybyla, Christian; Sieger, Achim; Hahn, Mathias; Ruppelt, Dirk; Jaeger, Werner

PA Akzo Nobel N.V., Neth.; Eka Chemicals Ab

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003095501	A1	20031120	WO 2003-SE726	20030506
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003230523	A1	20031111	AU 2003-230523	20030506
	CA 2485288	A1	20031120	CA 2003-2485288	20030506
	EP 1501876	A1	20050202	EP 2003-723594	20030506
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	BR 2003011432	A	20050322	BR 2003-11432	20030506
	CN 1653091	A	20050810	CN 2003-810202	20030506
	JP 2005524741	T	20050818	JP 2004-503514	20030506
	RU 2281294	C2	20060810	RU 2004-135557	20030506
	ZA 2004008972	A	20051116	ZA 2004-8972	20041105
	NO 2004005346	A	20050207	NO 2004-5346	20041206
PRAI	EP 2002-445055	A	20020507		
	WO 2003-SE726	W	20030506		

AB The process comprises polymerizing  $\geq 1$  water-soluble monomer (e.g., acrylamide and acryloxyethyltrimethylbenzylammonium chloride) in an aqueous solution of salt in the presence of a dispersant polymer (e.g., diallyldimethylammonium chloride-acryloxyethyltrimethylammonium chloride-polyethylene glycol Me ether acrylate copolymer), wherein the dispersant polymer is a copolymer of a monomer mixture comprising  $\geq 1$  cationic monomer and  $\geq 1$  monomer containing tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, or a monomer  $\text{CH}_2:\text{C}(\text{R}_1)\text{COO}[(\text{CH}_2)_n\text{CH}(\text{R}_2)\text{O}]_x\text{R}_3$  ( $\text{R}_1 = \text{H, Me}$ ;  $\text{R}_2 = \text{H, C1-2 alkyl}$ ;  $\text{R}_3 = \text{H, C1-4 alkyl, Ph, benzyl}$ ;  $n = 1-4$ ;  $x = 1-50$ ), and the monomer mixture is free from monomers which are not soluble in water and/or the dispersant polymer is obtainable by polymerizing the monomer mixture in a reaction medium which is substantially free from organic solvents.

IT **624722-87-8P**

RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)

(dispersant; process for preparing polymer dispersion for papermaking)

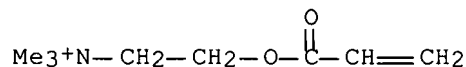
RN 624722-87-8 HCAPLUS

CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride, polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-ethanediy), graft (9CI) (CA INDEX NAME)

CM 1

CRN 44992-01-0

CMF C8 H16 N O2 . C1



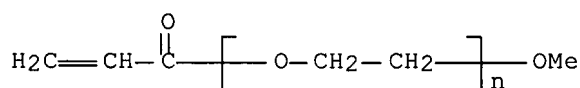
● Cl-

CM 2

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS



## RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Sun-Yi, H	2001			US 6262168 B1	HCAPLUS
Takeda, H	1990			US 4929655 A	HCAPLUS

L47 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:892458 HCAPLUS Full-text

DN 139:366507

TI Preparing a polymer dispersion, and use in papermaking

IN Struck, Oliver; Przybyla, Christian; Sieger, Achim; Hahn, Mathias;  
Ruppelt, Dirk; Jaeger, Werner

PA Akzo Nobel N.V., Neth.

SO U.S. Pat. Appl. Publ., 9 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003212183	A1	20031113	US 2003-430422	20030507
	US 7091273	B2	20060815		
	US 2006229401	A1	20061012	US 2006-450338	20060612
	US 7220339	B2	20070522		
PRAI	US 2002-377989P	P	20020507		
	US 2003-430422	A3	20030507		

AB A process for preparing an aqueous polymer dispersion comprises preparing a dispersant co-polymer of a monomer mixture (M) by polymerizing the monomer mixture (M) in a reaction medium which is substantially free from organic solvents and/or substantially free from monomers which are not soluble in H<sub>2</sub>O, the M comprises ≥1 cationic vinyl monomer (m<sub>3</sub>) and ≥1 monomer (m<sub>4</sub>) which is tetrahydrofurfuryl acrylate, tetrahydrofurfuryl methacrylate, or a monomer CH<sub>2</sub>:CR<sub>1</sub>CO<sub>2</sub>((CH<sub>2</sub>)<sub>n</sub>CHR<sub>2</sub>)<sub>x</sub>R<sub>3</sub>; where R<sub>1</sub> = H or Me; R<sub>2</sub> = H or Me or Et; R<sub>3</sub> = H, Cl-4 alkyl, Ph, or benzyl; n = 1-4, and x = 1-50, and polymerizing ≥1 water-soluble monomers (m) in an aqueous solution of a salt in the presence of the dispersant polymer.

*not a id*

IT 624722-87-8P

RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP  
(Preparation); USES (Uses)  
(polymer dispersion used in papermaking)

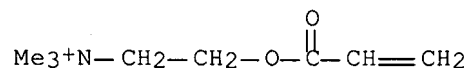
RN 624722-87-8 HCAPLUS

CN Ethanaminium, N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]-, chloride,  
polymer with  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -methoxypoly(oxy-1,2-  
ethanediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 44992-01-0

CMF C8 H16 N O2 . Cl



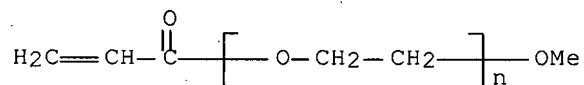
● Cl-

CM 2

CRN 32171-39-4

CMF (C2 H4 O)<sub>n</sub> C4 H6 O2

CCI PMS



## RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1986			EP 0169674	HCAPLUS
Anon	1986			EP 0170394	HCAPLUS
Anon	1986			EP 0183466	HCAPLUS
Anon	1990			EP 0364175	HCAPLUS
Anon	1993			EP 0525751	HCAPLUS
Anon	1994			EP 0630909	HCAPLUS
Anon	1995			EP 0637598	HCAPLUS
Anon	1995			EP 0657478	HCAPLUS
Anon	1996			EP 0717056	HCAPLUS
Anon	1998			EP 0831177	HCAPLUS
Anon	2000			WO 0011052	HCAPLUS
Anon	2000			WO 0011053	HCAPLUS
Anon	2000			WO 0020470	HCAPLUS
Anon	2000			EP 0877120	HCAPLUS
Anon	2001			WO 0118063	HCAPLUS
Fock	1995			US 5447981 A	HCAPLUS
Huang	2001			US 6262168 B1	HCAPLUS
Hurlock	1997			US 5597859 A	HCAPLUS

Hurlock	2000		US 6133368 A	HCAPLUS
Messner	1995		US 5403883 A	HCAPLUS
Nzudie	2001		US 6221957 B1	HCAPLUS
Takeda	1990		US 4929655 A	HCAPLUS
Takeda	1996		US 5587415 A	HCAPLUS

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L2 105 S E3  
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L3 77 S E25  
E YUASA NAME/AU  
L4 10 S E4  
E TOSHIYA/AU  
SEL RN L1

FILE 'REGISTRY' ENTERED AT 09:59:24 ON 07 JUN 2007

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L8 1 S L6 AND L7 SAM  
L9 STR L6  
L10 50 S L9 AND L7  
L11 STR L9  
L12 40 S L11 AND L7 CSS SAM  
L13 5435 S L11 AND L7 CSS FUL  
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L14 STR L11  
L15 40 S L14 CSS SAM SUB=L13  
L16 732 S L14 CSS FUL SUB=L13  
SAV TEMP L16 CORD720B/A  
L17 STR L11  
L18 20 S L17 CSS SAM SUB=L16  
L19 345 S L17 CSS FUL SUB=L16  
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L28 4 S L25 AND 4/NC  
L29 33 S L25 NOT L28  
L30 30 S L29 NOT L27  
L31 8 S L5,L21,L27  
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L34 66 S L32 CSS FUL SUB=L19

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L36 0 S L35 CSS FUL SUB=L19  
L37 6 S L34 NOT L24  
SAV L31 CORD720E/A TEMP

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L40 2 S L38 AND CANON?/PA,CS  
L41 2 S L39,L40  
L42 0 S L38 AND PY<=2002 NOT P/DT  
L43 6 S L38 AND (PD<=20021128 OR PRD<=20021128 OR AD<=20021128) AND P  
L44 6 S L41,L43

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L45 3 S L31

FILE 'REGISTRY' ENTERED AT 10:28:10 ON 07 JUN 2007

FILE 'USPATFULL' ENTERED AT 10:28:26 ON 07 JUN 2007

FILE 'REGISTRY' ENTERED AT 10:29:54 ON 07 JUN 2007

L46 1 S 620531-02-4

FILE 'HCAPLUS' ENTERED AT 10:30:13 ON 07 JUN 2007

L47 3 S L46  
L48 8 S L47,L31  
L49 6 S L47,L44

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